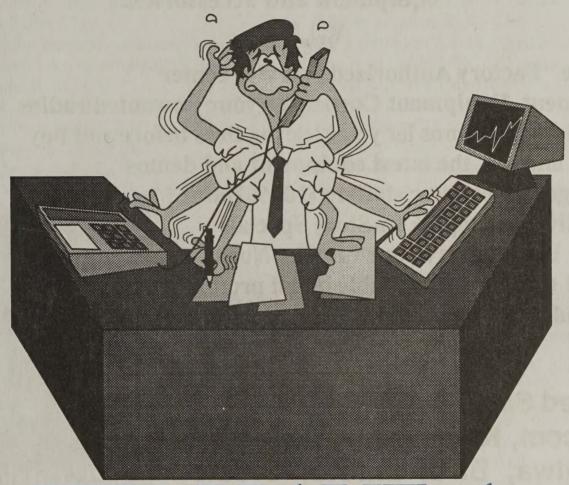


APRIL 1995



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The Foundation For Amateur Radio, Inc.



Washington, DC

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The Foundation For Amateur Radio, Inc.



Washington, DC

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		ARRL Report	
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COMING EVENTS

*Apr. 1	Applichian, Lebabon, PA.
*Apr. 2	Chesapeake ARS, Virginia Beach, VA.
Apr. 9	Palm Sunday
Apr. 10	Penn-Del ARC Hamfest, New Castle, DE.
Apr. 16	Easter Sunday
*Apr. 23	Carroll County
*Apr. 28-30	May Dayton Hamvention, Dayton, OH.
*Apr. 30	Kent Island Hamfest, Grasonville, MD.
Tipi. 30	Ment Island Francisco, Grasonvine, IVID.
*May 7	FAR/QCWA Annual Spring Banquet, Greenbelt, MD.
May 7	Warminister ARC, Wrightstown, PA.
May 6-7	Greenville, N.C., Hamfest
*May 14	Roanoke Valley Hamfest, Vinton (Roanoke) VA.
May 14	Mother's Day
May 14	Triple States RAC, Wheeling, W.VA.
May 20	Armed Forces Day
May 19-21	Atlantic Dic/N.Y. State Convention, Rochester, NY.
*May 21	Great Hagerstown MD. Hamfest
*May 28	Maryland FM Assn. Hamfest, Howard Co. Fairgrounds
May 29	Memorial Day
June 3	Rome Radio Club, Rome, NY
June 4	Tamaqua Area SB ARA & Anthracite Rptr. Assn., Tamaqua, PA
June 11	Central PA Hamfest, Winfield, PA
June 11	Lancaster, NY, ARC
July 2	Murgas, Wilkesbarre, PA
July 9	BRATS, Timonium, MD
July 22	Jonestown Mt Rptr., Huntington, PA
July 29	Columbia-Montour ARC, Berwick, PA

FOUNDATION MEETING

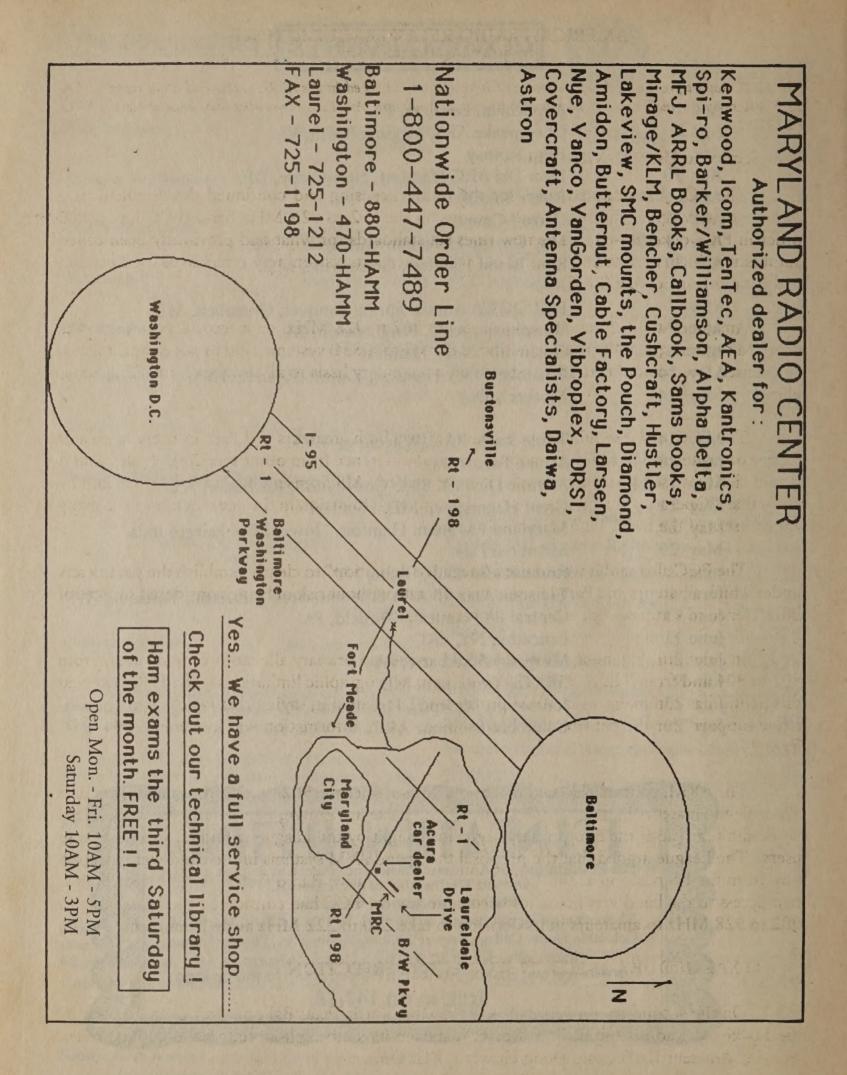
The Foundation for Amateur Radio, Inc. meets at 8: p.m. on the second Wednesday of each month.

Visitors are always welcome

The next meeting will be held on April 12 in Tokoma Park, Maryland Columbia Union College, Science Building Auditorium, Flower Avenue (Take beltway exit 30 South on Colesville Road to

(Take beltway exit 30 South on Colesville Road to Franklin Avenue, East on Franklin to Flower, South to the college)

Talk-in on 147.18



AMERICAN RADIO RELAY LEAGUE REPORT by John Swafford, W4HU

The ARRL Report provides a brief summary of information published in the ARRL Letter and other reports. The LETTER provides timely news of interest to active Radio Amateurs. Any League member may subscribe to the ARRL LETTER.

New Service to Use 902-MHz Band.

The FCC has adopted rules for the future licensing and continued development of a number of services, including Amateur Radio, in the 902 to 928 MHz band (FCC report and order in PR Docket 93-61). The new rules set standards for what had previously been called automatic vehicle monitoring systems but which the Commission now refers to as the Location and Monitoring Service (LMS).

Amateurs will continue to have access to 902 to 928 MHz, on a secondary basis, to the new LMS systems; to industrial, scientific, and medical (ISM) systems; and to government users. Unlicensed low power "Part 15" users are on a secondary basis to all the above, including amateurs.

The FCC said it would adopt a plan to afford both amateurs and Part 15 users "a greater degree of protection to their operations" (from interference from other services). It also said it would clarify what constitutes harmful interference to LMS licensees by Part 15 devices and by amateurs. "Operational restrictions should be imposed to maintain the coexistence of the many varied users of the band," the Commission said.

The FCC also said it would use a "negative definition" to clearly establish the parameters under which amateurs and Part 15 users may operate without risk of being considered sources of interference to services with a higher allocation status.

In a petition in January 1994 the ARRL requested primary allocations for amateurs from 902 to 904 and from 912 to 918 MHz, with certain geographic limitations. The FCC accepted this petition as comments in its AVM proceeding but denied it, saying that insufficient "quantitative support" for the petition had been shown. More information was in March 1994 QST, page 94.

The ARRL petition also said that in the decade since the 902 to 928 MHz band was made available to amateurs in most of the US in 1985, its use has grown, particularly for weak-signal work and television; the two primary segments sought by the League would be aimed at those users. The League argued that the proposal to expand AVM systems in the band were a departure from the US position at the 1979 World Administrative Radio Conference, at which amateur access to the band was first addressed, and that the FCC had considered the availability of 902 to 928 MHz to amateurs in its decision to take 220 to 222 MHz away from them.

TEXAS GROUP'S BALLOON WORKS TO PERFECTION

On the second try on February 4, 1995, the North Texas Balloon Project, sponsored by the Lockheed Radio Club in Fort Worth, launched its sixth high-altitude balloon experiment carrying Amateur Radio, said Doug Howard, KG5OA.

The first attempt was foiled by the balloon tie-off, leading to the launch of a weather balloon with no payload attached. The group then successfully lofted its spare balloon. All equipment performed flawlessly throughout the mission, Howard said.

The package reached 93,000 feet, about 4,000 feet higher than expected at launch time.

"The crossband [144 to 445 MHz] repeater was as popular as ever," Howard said, "and sounded like a typical pass of an Oscar satellite over the US. Folks worked through the repeater from Texas, Louisiana, Oklahoma, Arkansas and Kansas. The telemetry was copied from the same states and I continue to receive disks and printouts full of flight data.

"The ATV video was nothing short of spectacular," Howard said. "The highlight of the video downlink was the bursting of the balloon, as we had the camera pointed up to catch the extraordinary event. The skin of the balloon seemed to disintegrate into millions of little pieces and fly away from the center of the balloon as though it were a fireworks display."

During the mission, the NTBP gained the active support of another local radio club, and Rockwell ARC, Howard said, thanking them for their contribution to the project. "We look forward to working with the Rockwell ARC on future NTBP missions."

150 HAMS SUPPORT TOWER AT TOWN HEARING IN NY

On January 25, 1995, more than 150 amateurs turned out in support of an amateur's right to a tower.

The town of Hempstead, New York, on Long Island, heard the case for Mark Nadel, NK2T, who has been in a long battle to keep his 55-foot tower. Nadel said the hearing, which lasted about two hours, saw one neighbor oppose his tower, because of claimed radio frequency interference, and a "very complete and convincing' presentation by Nadel's lawyer, Peter Mineo.

Also speaking on Nadel's behalf were Norman Wesler, K2YEW; Dick Knadle, K2RIW; Howard Liebman, W2QUV; and Frank Fallon, N2FF, members of a support group called the Radio Amateurs Defense and Information Organization (RADIO).

In December, Ralph Haller, then chief of the Federal Communications Commission's Private Radio Bureau, told the town of Hempstead in a letter that it was wrong in trying to restrict an antenna installation on the basis of electromagnetic interference because there is "no reasonable connection" between the two, and that, in any event, the FCC has exclusive jurisdiction over interference matters.

The Hempstead zoning board is expected to make a decision within 30 days, Nadel said. More information was in December 1994 QST, page 88, and January 1995 QST, page 89

AMATEURS HELP SOUGHT FOR SPECIAL OLYMPICS

Amateur Radio will play an important role in the 1995 Special Olympics World Games this summer and amateurs around the world are asked to help.

The World Games, to be held June 28 to July 9 in New Haven, Connecticut, are expected to draw more than 10,000 athletes and their delegations from 140 countries, in addition to 45,000 volunteers, and perhaps hundreds of thousands of spectators and many celebrities.

Brian Battles, WS1O, Amateur Radio Liaison for the event, said: "This is likely to be one of the largest public service communication support opportunities most US amateurs will ever see."

Battles said amateurs will help by operating a special-event station, W1SO (for Special Olympics), originating free radiogram greeting traffic

on behalf of Special Athletes and spectators, and in other areas as needed.

All amateurs in Connecticut and nearby are invited to assist, and hams outside Connecticut are asked to be prepared to relay and deliver National Traffic System radiograms, and to make contacts with W1SO.

BRIEFS

* The Foundation for Amateur Radio will administer 56 scholarships for the 1995-96 academic year, to assist licensed amateurs who are students. The awards, from \$500 to #2000, are available to full-time college students, including those who have been accepted for 1995.

FAR, composed of more than 75 Washington, DC, area Amateur Radio clubs, fully funds five scholarships with the income from grants and its annual hamfest in Gaithersburg, Maryland. The remaining 51 scholarships are administered by the foundation without cost to the various donors.

For more information or application forms, contact FAR Scholarships, 6903 Rhode Island Ave, College Park, MD 20740, before April 30.

* The 1988 Radio Society of Great Britain President, Sir Richard Davies, G2XM, died last weekend. He was President during the Society's 75th Anniversary year and was active on the air until recently.

While in the service in 1942, OM Turner was clocked at 35 wpm using a hand telegraph key, said William J. Garrett, KB8NTE, of the Morse Telegraph Club, a record still standing and recorded in the current Guiness Book of Records.

According to a 73 Magazine articles in 1976, Turner in 1964 applied to the Signal Corps for certification of his code speed record, which had been witnessed by General Ben Lear, and got it. Turner said he handled code under "business" conditions and learned to concentrate accordingly.

* The ARRL DX Advisory Committee (DXAC) has voted, 8-to-7, to reject a petition to add Pratas Island to the DXCC Countries List based on Point 2(a), separation by water. Pratas Island is off the coast of China.

Some of those voting against cited concerns over the possibility of intervening rocks. Others cited what they perceived as disputed ownership of the island.

LEAGUE PRESIDENT HOSPITALIZED

ARRL President George S. Wilson, W4OYI, suffered a stroke on February 11 while in Washington, DC, on League business. At presstime, his condition remains guarded.

FCC HIGHLIGHTS By Jack Kelleher, W4ZC

Vanity Calls

This subject continues to be the dominant topic of conversation while we are waiting for the deadline date or dates — March 24 is the effective date for the amended Rules on this matter, and indications are that the actual kickoff date may be in early April. We will keep you informed of further developments.

Amateurs get 2400 MHz Primary status!

The old saying that every cloud has a silver lining certainly applies to the outcome of action on reallocation of 50 MHz of spectrum in the 2.5 GHz region. The following is drawn from the February 13th issue of the ARRL Letter.

The FCC has reallocated 50 MHz of spectrum, including 2390 to 2400 and 2402 to 2417 MHz, from government to nongovernment use. The Commission made available, in ET Docket 94-32, 2390 to 2400 MHz for use by unlicensed Personal Communications Services (PCS), and provided for continued use of 2402 to 2417 MHz by traditional unlicensed "Part 15" electronic devices. The unlicensed PCS devices, which include wireless networking and data transfer devices, will be governed by the same rules that that apply ro PCS devices operating in the 1910 to 1920 MHz band.

(The remainder of the 50 MHz. 4660 to 4685 MHz, was allocated to fixed and mobile services, an allocation not directly affecting amateurs.)

At the same time the FCC elevated the status of the Amateur Radio Service from secondary to primary in these band segments. This means that amateurs will not have to protect any other users of these frequencies from interference; and that amateur stations in these bands are entitled to protection against interference.

The FCC said it believes that these allocations will provide for the continued development and implementation of a new generation of advanced communication devices and services, including a new "on ramp" to the information superhighway.

Many groups bid for 2390 to 2400 MHz, and a few sought allocations at 2402 to 2417 MHz. Only two bidders, In-Flight Phone and Apple Computer, tried to demonstrate that their proposed services (at 2390 to 2400 MHz) would be compatible with amateur use of the same segment. Apple proposed a wireless LAN-type service, which they called "data-PCS", an unlicensed form of PCS regulated under Part 15. It is a low power, wide bandwidth digital device authorization.

These changes apply only to the domestic table of allocations. In the international Table for Region 2, amateurs remain a secondary allocation.

Spectrum use above 40 GHz

The following was excerpted from W5YI Reports for February 15:

The ARRL has filed comments on the FCC's announced intention to permit use of radio frequencies above 40 GHz for new applications.

ET Docket 94-124 proposes to make available a total of 16 GHz between 47.2 and 153 GHz, for commercial use on a shared basis with existing and future government users, and 2 GHz, from 40.5 to 42.5 GHz, for nongovernment users.

The purpose of the proposal is to create opportunities for short-distance wireless radio systems which in the past have had available only coaxial and fiber optic cable. Such sysems could support many short-range applications that require large bandwidth and high data transfer rates.

In addition, the Commission wishes to provide for vehicular field disturbance sensor systems at 76-77 GHz, as part of the Intelligent Vehicle Highway Systems (IVHS) currently being developed by automotive manufacturers. IVHS seeks to reduce congestion and improve vehicle safety by plugging drivers and smart cars into an interactive highway. Americans consume \$100 billion annually in wasted time and fuel sitting in traffic. Smart cruise (radar assisted) controls could keep traffic moving smoothly and curtail rear end collisions.

The ARRL said that the Amateur Service has pioneered certain consumer uses of high-rate wireless interconnected packetized computer systems, especially wireless access to information systems, and recognizes the undeveloped potential which cannot be realized by coaxial and fiber optic cable systems alone. Use of the millimeter-wave bands for vehicular applications, especially anti-collision radar and similar applications, is also in the public interest.

The League pointed out that amateurs have, for years, been allocated numerous segments above 40 GHz for experimentation — 47.0 to 47.2 GHz, 75.5 to 81.0 GHz, 119.98 to 120.02 GHz, 142 to 149 GHz, 241 to 250 GHz, and all frequencies above 300 GHz. The ARRL said that the Amateur Service is most interested in protecting future use of the 4 mm (75.5 to 81.0 GHZ) allocation, and in avoiding undesirable sharing partners. (Ed. note: The Amateur Service enjoys Primary status in 47-47.2, 75.5-76, 142-144, and 248-250 GHz. The balance of the aforementioned allocations to the Amateur Service are secondary).

The ARRL took issue with a 1993 General Motors Research Corporation petition (RM-8308) that contended that the 76-77 GHz band is not currently used by amateur operators. ARRL said that amateur use of the 76-77 GHz band may not be significant at the present time, but that the band has potential for amateur short-range, high-speed data communications in the future. The League feels strongly that the FCC should not make any allocation decision based on assumptions about the current level of amateur use of the 4 mm band.

As long as the FCC proposes no change in the allocations or service rules for the Amateur Service at 76-77 GHz; and provided that there is no change proposed whatsoever for the 75.5-76 and 77-81 GHz segments, the League does not oppose the proposed use of the 76-77 GHz band for Intelligent Vehicle Highway Systems radars.

FCC Proposes Legislative and Internal Changes.

The following is based on a W5YI Report article in the February 15th issue.

On February 1 the FCC released a special report to the Commissioners and the Congress that documents the Commission's attempt to "reinvent" itself. Titled "Creating a Federal Communications Commission for the Information Age", the document reviews the many recent structural changes to the FCC and proposes new legislation intended to streamline agency activities.

The report points out the new customer service standards at the FCC's Gettysburg license processing plant. Phone calls are supposed to receive a response within one business day; callers are not to be transferred more than twice, or (sic) the staff will obtain the answer at the second transfer and call back; it will provide status information on license applications and try to resolve errors in applications by telephone.

Another improvement is the FCC's proposal to eliminate entirely the process of certifying personal computers for market. Under the current system, manufacturers of PCs must submit example products and voluminous paperwork to the FCC Laboratory. The process is said to cost the industry \$250 million annually. In the new process, manufacturers will pay independent labs to test their products and will retain the test records. The FCC will make no more grants of certification to computers if the proposal is adopted.

For some of the changes, Congress must amend the Communications Act. For example, the FCC asked the Congress for permission to auction more spectrum in more radio services. Currently the FCC is allowed only to auction licenses in services that charge fees to the public.

Another FCC proposal would eliminate conflict-of-interest provisions for publishers to broaden the category of those authorized to administer Amateur Radio Service examinations, and eliminate burdensome record maintenance and annual financial certification requirements. This would streamline the Amateur Radio examination process, make a greater variety of entities eligible to administer the tests, and eliminate numerous filings with the Commission, the Report said.

Another proposal is the FCC's request to Congress for the power to eliminate licensing in the Personal Radio Services - namely the GMRS (General Mobile Radio Service) as the only such service to which such legislation would apply, and the proposed Family Radio Service that aims to use the GMRS spectrum. (According to W5YI, certain GMRS user groups object to such delicensing as removing protection of GMRS users from interference.)

Among changes that would not require Congressional action are these:

- · Allow radio amateurs to change mailing addresses by letter or e-mail;
- · Make the effective date of FCC actions the date the item is released to the Internet;
- · Extend the term of experimental licenses from one to three years;
- · Privatize the process of coordinating frequencies for HF broadscast stations;
- · Relax the requirement for spread spectrum transmitters to reduce transmit power when using a directional antenna.

TRAFFIC FUN

By Geri Sweeny, N4GHI

Welcome to KR4TF and KS4HX. Both Mike (Sterling) and Sean (Arlington) have been checking into Virginia nets. It's good to hear new voices and fists. Northern Virginia nearly always has incoming traffic, so it's good to have lots of outlets.

Those of you who want to try a really fine happening should check into the Maryland Slow (CW) net. You can go as slow as you wish. An instructor will be assigned to you when you check in and take you off frequency (3717 KHz) to send you practice messages. Who could ask for a better approach? All you have to do is show up at 7:30pm. When NCS sends QNI (check in), you do. There are lots of way to check into a net.* The NCS on the MSN prefers that you check in by sending a letter of the alphabet. When s/ he hears your letter, s/he will send that same letter back to you. When you hear the letter come back,, you send your full call: de N4GHI. While it's called the Maryland Slow Net, you will hear stations checking in from lots of states. This is a training net. Instructors are awaiting your call. Join the fun of receiving and transmitting CW, while learning about traffic, at your own speed.

Checking into a net: 1) NCS 'calls the net' (sends an opening preamble). 2) NCS calls for liaison stations who are coming from and/or going to other nets. 3) NCS asks those with traffic to check in 'QTC'. 4) NCS calls f or checkins 'QNI'. At 5 wpm, you don't want to waste time doubling (two stations checking in at the same time), as beginners might do. Thus, the one letter approach.* Other nets will encourage you to check in one at a time. For this approach the NCS sends QNI and after one station sends 'de N4GHI QRU (I have no traffic)', the NCS comes back and recognizes that station and then sends QNI again. We on the Virginia and Fourth Region nets call QNI and sit back and wait. Everyone checks in without interruption. And, there's rarely a double. Those without QSK send 'de' and give a quick listen. When it is finally quiet (a few seconds), NCS will send QNS ('the following stations are in the net') and list those s/he heard. A newcomer to any net should listen before checking in.

The Foundation For Amateur Radio, Inc.



Washington, DC

DX DX DX

By John Kanode, N4MM

The DX Advisory Committee has voted 8 to 7 to reject a petition to add Paratas Island to the DXCC Countries List based on Point 2(a), separation by water. Some of those voting cited concerns over the possibility of intervening land. Others cited what they perceived as disputed ownership of the island. Other items still pending in the DXAC are the Kingdom of Mustang, possible deletion of Aruba, Alaska and Hawaii, Scarborough Reef and the minimum size rule. I doubt if any of these items will get a positive recommendation from the committee, except maybe for Scarborough and the minimum size rule.

UPCOMING DX CONTESTS

Poisson d'Avril Contest	April 1
Holyland DX Contest	April 2-3
Italian YLRC XVII Intl. Contest	April 2-3
Japan Intl. DX Contest (High Bands)	April 9-10
DX-NA YLRL CW Contest	April 13-15
Helvetia Contest (HB9)	April 23-24
DX-NA YLRL SSB Contest	April 27-29

TIDBITS

California Republican Elton Gallegly has proposed a Bill in Congress that the boundaries of the State of Hawaii be broadened to include the following Pacific Islands; Baker, Howland, Jarvis, Johnston, Kingman, Midway and Palmyra. If this Bill makes it through Congress and is signed into law by the President, there would be changes to the DXCC List. This action is a long way off buy worth watching.

The A51/JH1AJT Bhutan operation was conducted February 1 to February 4. 8,200 contacts were made using all bands except 12 meters, using CW, SSB and FM modes. Contact breakdown was USA-970, Europe-950, Japan-5,940 and other areas-340. It is hoped that this operation will lead to others in the future. Many need this country for the top of the honor roll.

The FCC has released its Report and Order on the Vanity Call Sign Program. They accepted about 95% of the recommendations that the ARRL proposed. There has been very high interest in the program by Dxers, Contesters and Clubs. Several local clubs, such as the North Shenandoah DX Association, Potomac Valley Amateur Radio Club and the National Capitol DX Association will be filing for a club call sign. Best guess is that the first window might be open on July 1. The FCC will issue Public Notices in advance of filing dates for each gate.

Tunisian authorities have agreed to allow Omani members of the Royal Omani Amateur Radio Society (ROARS) to operate from Tunisia. ROARS members are now planning an operation that will probably take place sometime during the summer months.

The DX News Sheet reports activity by the following PIRATE operations that were active duringthe Christmas Holidays: C21DD, 5A0SI, T31SI and XY1XX.

SH is a new prefix for Sweden. In the future Swedish novices will be issued call signs in the SH series.

Those would-be Dxpeditioners who are not up to an operation such as South Sandwich Island but want to see what it is like at the DX end of the pile-up, might want to go on DX-Caribe Cruise '95. Yaesu is going to have a second radio theme cruise starting on June 18 to 25. It will start in Aruba and sail to Dominica, Barbados, Martinique and Curacao. It will be on board the Dolphin Cruise line's SS Ocean Breeze. Two HF stations on board will permit /MM operation, plus passengers may operate from beach locations at stopovers. There will be guest speakers on various Amateur Radio subjects. For more information contact: Landry and Kling, 1390 South Dixie Highway, Suite 1207, Coral Gables, FL. 33146 or Phone 1-800-448-9002, Fax 305-661-0977.

TRAINING CLASSES

New Editor

JOHN FORREST WZ4A New Editor 6111 Burnett St.
Alexandria, VA 22310 (703)971-3905

Please send announcements for training classes and club training contacts to WZ4A at the above address. Deadline is the 25th of the 2nd month prior to the Autocall publication date (e.g., 25 November for the January issue).

CLASS ANNOUNCEMENTS

None as of deadline for publication.

CLUB TRAINING CONTACTS:

Ald-i- DC	D' 1 A 1 YA AOTTY	(77.00) (44.000)
Alexandria RC	Rich Adamy KA4GFY	(703)644-3920
Anne Arundel RC	Tony Young WA3YLO	(301)262-1917
Arlington ARC	Fred Bardsley WD4DHW	(703)533-0372
Antietam Rad Assn.	Robert Long KD3JK	(301)824-5132
Baltimore RATS	Joe Chidester W3SHZ	(410)602-0353
Baltimore ARC	Essex Community College	(410)780-6854
Fauquier ARC	Neil Spokes AB4YK	(703)364-3861
Frederick ARC	Steve Bauman W3FOA	(301)662-4552
Herndon Rep't Gp	Michael Weber WB8RDN	(703)450-2304
Laurel ARC	Pub Reaver W3DQI	(301)498-6293
Madras	Larry Ziecheck	(301)984-6112
MD Mobileers ARC	John Baugus N3JME	(301)551-3161
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Mt. Vernon ARC	John Forrest WZ4A	, ,
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	Vikki Gigante KA3PVS Charles Dale WA4VCI	(301)249-2609
Ole VA Hams ARC	Charles Dale WATIGI	(703)361-3091
Pentagon ARC	David Boyd K9MX	(703)659-6241
St. Marys Co. ARC	Pete Butt WA3UMY	(301)862-2214
Shenandoah Val ARC	Guy Black W4PSJ	(703)722-4952
Southern MD ARC	Vic Curtis WA3YUV	(301)888-1388
Southern Pax ARC	Dwayne Kincaid WD8OYG	(410)586-2177
Springfield Est ARC	Will Schmitt KD4CNX	(703)768-5709
Stafford Adult Ed	Jerry Mullinix AC4HK	(703)659-3905
Sterling Park ARC and a property to property	Forrest Snyder N4UTY	(703)430-4149
Tri-County ARC	John Creel WB3GXW	(703)572-5124
Vienna Wireless	Paul Wilkins AB4CY	(703)560-2779
Woodbridge Wireless	Cliff Deel KO4FM	(703)491-0841
Williago Williago	OIIII DOOI ROTINI	(/03/17/1-0041

Montgomery Amateur Radio Club - NOVICE/TECH CLASSES

The Montgomery Amateur Radio Club is offering a Spring Training Class for Novice & Technician licenses beginning April 25, 1995. The classes will be held on Tuesday and Thursday evenings from 7PM to 9PM at Gaithersburg High School in Gaithersburg, MD. The classes will run through June 1, 1995. For Information call Rocky Jones - KC4UXO at (301) 216-5120 or Peggy Kelly - N3PPG at (301) 330-0027

FOUNDATION FOR AMATEUR RADIO

VOLUNTEER EXAMINER COOPERATIVE

JOHN FORREST WZ4A 6111 Burnett St. Alexandria, VA, 22310 (703)971-3905

NOTICES:

- * Effective July 1, 1994, the General Class written exam question pool (Element 3B) was changed. Be sure to use study materials appropriate for the current question pool.
- * Copies of the complete (as of date) 1995 VEC Exam schedule from the AUTOCALL database are available. To obtain a copy, please send a large, self-addressed envelope with sufficient postage to cover 10 letter-size pages along with \$1.00 to cover copying costs to WZ4A at the above address.
- * The maximum exam fee has been raised by the FCC to \$5.90.

SCHEDULE OF EXAMINATIONS

1995

April 2, 1995 (Sunday)

Landover, MD - D.C.M. ARC (W5YI VEC) Walk-In Contact: Freddie Battle NG3G (202)546-9348 (Day) (301)773-2898 (Evening)

April 8, 1995 (Saturday)

Alexandria, VA - Mt. Vernon ARC (Laurel VEC) Walk-In Contact: Frank Mackey N4GUS (703)455-1510

Sterling, VA - Herndon Repeater Group (ARRL VEC) Walk-In Contact: Mike Weber WB8RDN (703)450-2304

Cumberland, MD - Mountain ARC (Mount. ARC VEC) Walk-In Contact: Leo Patterson KQ8E (304)289-3576
Gay Rembold W3DFW (301)724-0674

Davidsonville, MD - Anne Arundel Radio Club (Laurel VEC) Walk-In

Contact: Bob Israel WC3I (301)262-5083

April 15, 1995 (Saturday)

Laurel, MD - Laurel ARC (Laurel VEC)
Pre-Registration Desirable, Limited Walk-In
Contact: John Creel WB3GXW (301)572-5124 after 6 PM

Smithsburg, MD - Mid-Atlantic DX & Rptr Assn. (ARRL VEC)
Pre-Registration Requested
Contact: J.M. Vaia WB8VBW (301)416-8447 Box 110

April 20, 1995 (Thursday)

Towson, MD - Baltimore ARC (ARRL VEC) Walk-In Contact: Bob Kennick WB3HNV (410)426-8255 Mailbox #3468

April 25, 1995 (Tuesday)

Annapolis, MD - Maryland Mobileers ARC (Laurel VEC)
Pre-Registration Requested, Walk-In limited
Contact: Lois Turner KA3VVQ (410)647-4178

April 29, 1995 (Saturday)

Spotsylvania, VA - Fredericksburg VA VE Team (ARRL VEC)
Walk-In
Contact: Kelly Shaw AC4MB (703)891-5581
Carolyn Cavanagh AC4SK (703)373-7076

April 30, 1995 (Sunday)

Hagerstown, MD - Antietam Radio Assn. (ARRL VEC) Pre-registration Strongly Recommended - Limited Walk-In Contact: Page Pyne WA3EOP (301)714-0688 (Day)

May 3, 1995 (Wednesday)

Warrenton, VA - Fauquier ARA (ARRL VEC) Walk-In Contact: Neil Spokes AB4YK (703)364-3861 (Evening) (703)788-9029 (Day)

May 7, 1995 (Sunday)

Landover, MD - D.C.M. ARC (ARRL VEC) Walk-In Contact: Freddie Battle NG3G (202)546-9348 (Day) (301)773-2898 (Evening)

May 7, 1995 (Sunday)

Elkins, WVA (Mount. ARC VEC) Walk-In Contact: Walter Corley KF8SX (304)637-0506

May 8, 1995 (Monday)

California, MD - Southern Patuxent ARC (ARRL VEC) Walk-In Contact: Dwayne Kincaid WD8OYG (410)586-2177

May 13, 1995 (Saturday)

Alexandria, VA - Mt. Vernon ARC (Laurel VEC) Walk-In Contact: Frank Mackey N4GUS (703)455-1510

Davidsonville, MD - Anne Arundel Radio Club (Laurel VEC) Walk-In Contact: Bob Israel WC3I (301)262-5083

Culpeper, VA - (ARRL VEC) Pre-Registration Preferred Contact: Bill Brown AC4KP (703)547-3089
Gary W0QDP (703)854-6187

May 14, 1995 (Sunday)

Antietam Radio Assn (Greater Hagerstown Hamfest) (Mount. ARC VEC) Pre-Registration Desirable Contact: Leo Patterson KQ8E (304)289-3576 Gay Rembold W3DFW (301)724-0674

May 20, 1995 (Saturday)

Laurel, MD - Laurel ARC (Laurel VEC)
Pre-Registration Desirable, Limited Walk-In
Contact: John Creel WB3GXW (301)572-5124 after 6 PM

Smithsburg, MD - Mid-Atlantic DX & Rptr Assn. (ARRL VEC)
Pre-Registration Requested
Contact: J.M. Vaia WB8VBW (301)416-8447 Box 110

May 23, 1995 (Tuesday)

Glen Burnie, MD - Maryland Mobileers ARC (Laurel VEC)
Pre-Registration Requested, Walk-In limited
Contact: Jerry Gavin NU3D (410)761-1423

May 26, 1995 (Friday)

The Pentagon, Arlington, VA - Pentagon ARC (ARRL VEC)
Pre-Registration Encouraged
Contact: Jim Fox KE4EID (703)756-8994 (Work)
(703)931-6523 (Evening)

June 4, 1995 (Sunday)

Landover, MD - D.C.M. ARC (W5YI VEC) Walk-In Contact: Freddie Battle NG3G (202)546-9348 (Day) (301)773-2898 (Evening)

June 10, 1995 (Saturday)

Alexandria, VA - Mt. Vernon ARC (Laurel VEC) Walk-In Contact: Frank Mackey N4GUS (703)455-1510

Cumberland, MD - Mountain ARC (Mount. ARC VEC) Walk-In Contact: Leo Patterson KQ8E (304)289-3576
Gay Rembold W3DFW (301)724-0674

Davidsonville, MD - Anne Arundel Radio Club (Laurel VEC) Walk-In Contact: Bob Israel WC3I (301)262-5083

June 15, 1995 (Thursday)

Towson, MD - Baltimore ARC (ARRL VEC) Walk-In Contact: Bob Kennick WB3HNV (410)426-8255 Mailbox #3468

<u>June 17, 1995</u> (Saturday)

Laurel, MD - Laurel ARC (Laurel VEC)
Pre-Registration Desirable, Limited Walk-In
Contact: John Creel WB3GXW (301)572-5124 after 6 PM

Smithsburg, MD - Mid-Atlantic DX & Rptr Assn. (ARRL VEC)
Pre-Registration Requested
Contact: J.M. Vaia WB8VBW (301)416-8447 Box 110

June 26, 1995 (Monday)

Annapolis, MD - Maryland Mobileers ARC (Laurel VEC)
Pre-Registration Requested, Walk-In limited
Contact: Lois Turner KA3VVQ (410)647-4178

<u>July 2, 1995</u> (Sunday)

Landover, MD - D.C.M. ARC (ARRL VEC) Walk-In Contact: Freddie Battle NG3G (202)546-9348 (Day) (301)773-2898 (Evening)

July 8, 1995 (Saturday)

Alexandria, VA - Mt. Vernon ARC (Laurel VEC) Walk-In Contact: Frank Mackey N4GUS (703)455-1510

Davidsonville, MD - Anne Arundel Radio Club (Laurel VEC) Walk-In Contact: Bob Israel WC3I (301)262-5083

<u>July 15, 1995</u> (Saturday)

Laurel, MD - Laurel ARC (Laurel VEC)
Pre-Registration Desirable, Limited Walk-In
Contact: John Creel WB3GXW (301)572-5124 after 6 PM

Smithsburg, MD - Mid-Atlantic DX & Rptr Assn. (ARRL VEC)
Pre-Registration Requested
Contact: J.M. Vaia WB8VBW (301)416-8447 Box 110

July 21, 1995 (Friday)

The Pentagon, Arlington, VA - Pentagon ARC (ARRL VEC)
Pre-Registration Encouraged
Contact: Jim Fox KE4EID (703)756-8994 (Work)
(703)931-6523 (Evening)

<u>July 25, 1995</u> (Tuesday)

Glen Burnie, MD - Maryland Mobileers ARC (Laurel VEC)
Pre-Registration Requested, Walk-In limited
Contact: Jerry Gavin NU3D (410)761-1423

The Foundation For Amateur Radio, Inc.



Washington, DC

EXAM FEES:

- * Check for appropriate exam fee. Fees and modes of payment for individual VECs and exam teams may vary.
- * ARRL VEC exams cost \$5.90
- * Laurel VEC exams are free
- * Mountain VEC exams are free
- * W5YI VEC exams cost \$5.90

BRING TO EXAM:

- * Picture identification
- * Completed FCC form 610 (most VE teams will supply at exam)
- * Original and a copy of current FCC amateur radio license
- * Originals and copies of all active certificates of successful completion of prior exams
- * Exam fee (check or cash depending on VE team)

"GRANDFATHER" CREDIT FOR ELEMENT 3B (GENERAL WRITTEN):

* If you presently hold a Technician class license which was first issued prior to March 21, 1987, you may be grandfathered for Element 3B (General class written exam) by presenting the original and a copy of the license dated prior to March 21, 1987 to the VE team. It is your responsibility to prove that you are entitled to grandfathering. Do not lose your original license!

RULES FOR SUBMISSIONS TO THE FAR VOLUNTEER EXAMINER COOPERATIVE:

- 1. All submissions must be in writing
- 2. Date and day of week must be specified for each exam date
- 3. Point of contact and phone number must be specified
- 4. Sponsor and location must be specified
- 5. VEC must be specified
- 6. Exam dates up to 12 months in advance will be accepted
- 7. Deadline for submission is 25th of the 2nd month prior to publication date (e.g., Sept. 25 for November issue)

The Foundation For Amateur Radio, Inc.



Washington, DC

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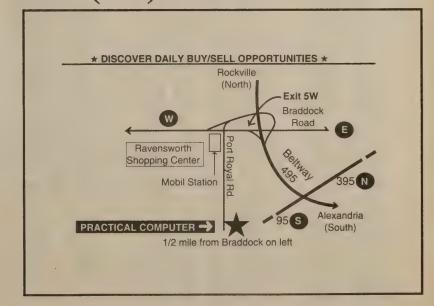


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MARYLAND-DC QSO PARTY Antietam Radio Association Presents the 1995 Edition of the

AND AUGUST 12, 1995 1600Z TO 0400Z AUGUST 13TH 1600Z TO 2359Z AUGUST 13, 1995

PHONE & CW: CW QSOS IN THE CW BANDS ONLY! Stations may be worked ONCE per band using each mode.

MD-DC Mobile, best yl entry, high qrp entry from each state. Also to best Novice/Tech entry/state. AWARDS: PLAQUE to the high scoring MD-DC Station, the top non MD-DC Station, and categories including 10 best MD-DC logs, Best each U.S. State, Canadian Province, DX Country, to the Maryland-DC Club with the high scoring entry ! Certificates awarded for all other

THE RULES

- 1. Non-MDC Stations must work only MDC stations. MDC stations may work anyone.
- 2. Portables and mobiles that change counties during the test count as a separate station in each new county of operation. Sorry, no packet or repeater QSOs allowed. QSOs part of a regularly scheduled net are not allowed.
- 3. EXCHANGE: QTH and MAJOR CATEGORY of entry. QTH is County for Maryland Stations, US State, Canadian Province or Country as appropriate for Non-MDC stations. MAJOR CATEGORIES are CLUB, QRP, MOBILE, Novice/Tech, and STANDARD Stations should send the major category that reflects their highest point value.
- 4. SUGGESTED FREQUENCIES: SSB 3.92 7.23 14.26 21.37 28.38 50.15 146.55 MHZ CW 3.643 3.701 7.035 7.126 14.04 21.115 28.04 28.115 MHZ CW is suggested on the odd half hours. Examples 1730 1930 2130 2330 0130 0330
- FOR MDC STATIONS The basic 25 as above + each of the other 49 states + Canadian Provinces + 1 for other DX. 5. SCORING: FOR NON-MDC STATIONS - Each MD County + Baltimore City + DC are multipliers (25 possible) Multipliers may be claimed once only, they do not repeat on the other bands.
- 10 poiints for CLUB STATION GSOS (Clubs anywhere for MDC stations) 5 points for Mobile QSOs (Mobiles anywhere for MDC stations)

4 points for QRP or NOVICE/TECH QSOs regardless of mode

3 points for CW or RTTY QSOs with Standard stations (RTTY & CW count as same mode for scoring purposes)

1 point for any other valid contact (Standard SSB and FM)

7. FINAL SCORE: Add up the QSO POINTS and MULTIPLY by the SUM OF THE MULTIPLIERS. Highest single point value applies example-contact with a mobile club station is a 10 point qso

Baltimore Amateur Radio Club

▲ Meetings: Twice monthly, 7:30 pm at Dulaney High School (Padonia Road, Timonium MD) First Wednesday of the month: business meeting -Third Wednesday of the month: programming

▲ Repeaters: W3FT/RPTR 146.67(-)/224.24(-) (no PL) and 449.625(-) (PL 107.2) Note:

two meter/220 Mhz are linked.

▲ Club Net: Every Tuesday night at 8:30 pm on 146.67/224.24

▲ Club BBS: (410) 665-7646 (minimum 2400 baud)

▲ Club Voice Mail/Information: (410) HAM-TALK

▲ Greater Baltimore Hamboree & Computerfest/Maryland State ARRL Convention Information: (410) HAM-FEST or (800) HAM-FEST

▲ Mailing: BARC, Inc.; P.O. BOX 120;

Reisterstown MD 21136

BARC is pleased to host a new National Traffic System (NTS) net on the club 2 meter/220 MHz repeater. The new net, the Baltimore Traffic Net (BTN), meets daily at 6:30 pm and is sponsored and primarily staffed by experienced NTS operators from around the MDC section. The purpose of the net is to provide VHF access for the sending and receiving of formal NTS radiograms within the Baltimore metropolitan area. (Prior to this time, all NTS activity in Maryland has been on 80 Meters and packet.) All amateurs within range of the repeater are invited to participate.

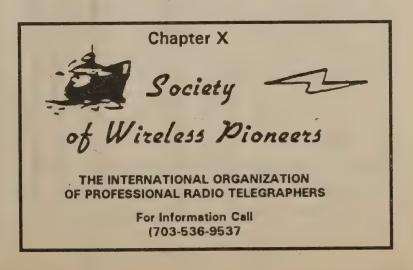
The club is now organizing volunteers for several spring public service events. We will be providing communications for the March of Dimes walkathon on Sunday, April 30th which begins and ends at Memorial Stadium, with a loop through Towson. Then on the following Saturday, May 6th, we will be covering a bicycle event for Mothers Against Drunk Driving (MADD). The MADD event begins and ends at Oregon Ridge park, with the route loop-

ing west and north through Boring, MD. Contact person is Bob Kennick, WB3HNV.

The April program meeting will be an adventure in railroading modern-style, with Ellis Eisen, N3IDV, speaking about the heavy and light rail systems in Baltimore. There is a possibility of a field trip to the rail control center associated with this program... stay tuned to the club net or bbs for more information as it becomes available. The February program meeting featured Phil, N3CDY, skating in from the ice rink...er..parking lot... to tell us about the club repeater system. His presentation started with a summary of the history and growth of the repeater system, proceeded through a technical discussion of the current set-up of the system (including show-and-tell with genuine repeater components), and ended with an overview of what's planned for the near future in terms of upgrades and growth of the repeater system. Thanks, Phil!

The February transmitter hunt drew a good turn-out, with around nine teams hunting the fox. Kevin, N6QAB, (the fox) provided some variety, with a completely automatic hidden transmitter and a mileage-only style hunt. (Time of arrival would only be significant in determining the winner if two teams arrived with the samemileage from the starting point.) Congratulations to N3QDU for taking first place in the hunt.

...73 de N3IVO/Rosie



Central Maryland Amateur Radio Club (CMARC)

- ▲ Club meeting: 4th Friday of the month at 7:30pm, at the New Carrollton Municipal Center, 6016 Princess Garden Parkway, New Carrollton, MD (no meeting in December).
- ▲ Repeater: N3EZD/R 145.230 MHz
- ▲ Net: Every Tuesday, 9:30pm, 145.230 MHz repeater.
- ▲ Mailing Address: Central Maryland Amateur Radio Club, 6016 Princess Garden Parkway, New Carrollton, MD 20784.
- ▲ Information: Oscar Ramsey, Pres. NV3G, (301) 262-3392.

The main topics of discussion at the February business meeting continued to be the proposed upgrades to the repeater facility (especially autopatch), and how to pay for these upgrades. President Oscar Ramsey (NV3G) reported on the technical committee's first meeting with Mike Dees (N3EZD), the repeater designer and trustee. Mike laid out several options to the technical committee which the committee is still in the process of digesting. At an upcoming club meeting (TBD), Mike will present the most feasible and desirable options to the entire club.

Fundraising discussions centered mainly around participating in local hamfests, and reviving the "ham sandwich" booth at the Greenbelt Labor Day Festival. It was noted, however, that if the club goes forward with the "ham sandwich" booth, it will not be able to also put on a special event station at the Festival due to not having enough members to carry out both events simultaneously.

Orders were taken at the February meeting for Radio Adventures Corporation's W1AW code practice and news bulletin receiver kit. More experienced CMARC Hams will assist kit building novices in assembling their kits at kit building sessions at mutually convenient dates after the kits arrive.

Laurel Amateur Radio Club

A Volunteer Examiner Coordinator

- ▲ Meetings: 4th Wednesday of each month (except November & December) 7:30pm at 384 Main Street, Laurel Md; Social: 2nd Wednesday of each month, except December (Call for directions)
- ▲ Nets: 1st & 3rd & 5th Wednesdays, 8:30pm, on 147.225+, no tone.
- ▲ Mail: P.O. Box 3039, Laurel, MD 20709-0039
- ▲ Exams: 3rd Saturday of each month, to preregister contact: John/WB3GXW, 301-572-5124 after 6pm.
- ▲ Information: Jim/WI3N (301)725-6829 or Pud/W3DQI (301)498-6293

COMMUNITY SERVICE EVENTS

Seventeen members of LARC provided communications for the annual running of the Washington Birthday Marathon on 19 Feb in Beltsville, Md. HD/N3LFL, Colleen/KB0PWW and Jim/N3LDJ served as NCS. Howard/K3IOG and Mike/WB3HUP were mobile on the course to pick up runners needing assistance. Thanks to Pud/W3DQI for coordinating the event and all the LARC members who participated!

On 22 April, the LARC will provide communications for the Laurel 10K Run, sponsored by the Laurel Rescue Squad.

MORE "J" POLES

On 26 Feb, Jim/WI3N, Phil/N3RFB and several members joined with other hams at the Seventh Day Adventist club in Takoma Park, Md, to construct the 2 meter J poles. These 2 meter antennae have become very popular and are simple to construct.

Continued on next page

THE MID-ATLANTIC DX & REPEATER ASSOCIATION

Our largest test session yet took place on February 18. Thanks to the pastor and congregation of St. Paul's Methodist Church, Smithsburg MD, we have a good site available to our VE team each month. Thanks to Hams from the Antietam, Frederick, Chambersburg, Opequon and other local clubs, we fill out the VE team. Sam, N3MPE, our usual liaison with the church has been recovering from back surgery. Joe, K3LLP, has ably sub'd in this capacity. The excitement of seeing our test sessions grow is infectious; even this reporter has applied for VE accreditation.

MADRA's membership drive is playing to mixed reviews. We have more than 65% renewal at this time. Our expansion of repeater service, remote systems and added digital systems is being greeted with strong enthusiasm by members and neighbors. These neat features do affect the old bank account, so don't forget to renew if you're among missing 35%. If you like what you find among our growing services, please contact the voice or digital BBS for membership info. All Hams are welcome. We're about as exclusive as a rain shower

We would also welcome the help of members and other Hams for two public service communications tasks: In early April we will be looking for operators to work with us in supporting the MS-Walk in Hagerstown in

early April, and on May 13 a race near Mt. Airy will draw on us for some 22+ operators. Please check in to our Tuesday night 2M net for details on these. For the Mt. Airy event, you may sign up via packet directed to N2CF@N3HYM. Unconfirmed rumors for this event include possibilities of free T-shirts.

Remember, MADRA's main areas are dinner meetings and operating events. Most of our member re also in their local clubs in MD, VA, WV or PA, where club business, community activities, etc. are the main

concerns. If you'd like to join MADRA, you can call our voice BBS or just download an application from the computer BBS. Amipro, Word and WordPerfect formats are there and an ASCII format will be up soon.

We're looking forward to the MADRA Picnic, Field Day and Railroad Days in Brunswick MD later this year. Two new activities are also in the works: a July HamFest and a MADRA Annual Contester Award.

73 DE N2CSQ/3

Laurel - Continued from page 26

LARC CONDUCTS GENERAL

LICENSE CLASS

Tom/W0ZX, Kevin/W3DAD and Pud/W3DQI began a General License class on 13 Feb with fourteen students. The class will end on 3 Apr with a VE test session. ...BTW..Congratulations to Mary Ellen/KD3ZH who recently upgraded to Extra Class!

CLUB PROGRAM

At the February meeting, Ken Schroeder, Director, Office of Emergency Prepardness, P.G. County, briefed the LARC members on the county planning and organization to deal with emergencies and the important role of Amateur Radio. Chuck Sommer/N4OSD, Radio Officer, RACES, also described the county EOC operations.

VE PROGRAM

At the February VE session, 44 individuals were tested; 88 elements were administered and 29 individuals upgraded.

73 de Roger/N3MIJ

MAD RAS

The Maryland Apple Dumpling Radio Amateur Society, Inc.

- ▲ Meetings: 2nd and 4th Thursdays 7:00 P.M. NBC Building WKYS Conference Room 4001 Nebraska Avenue, Washington, DC 20016
- ▲ Net: 1st and 3rd Thursdays at 8:30 P.M. on 145.45 MHZ
- ▲ Repeaters: 444.100 PL-2/449.100 MHZ 145.45/144.85 MHZ
- ▲ Mailing: P.O. Box 2468 Wheaton, Maryland 20902
- ▲ Information: Hani Read AA3EI (.202) 223-3925; Larry Ziecheck N3GKZ (-301) 984-6113; Jean Blacik N3PLC (.301) 984-6113

MADRAS extends special thanks to Al Nollmeyer - W3YVQ for his excellent presentation on "Relations Between RACES, ARES and NTS" at our February 9th meeting.

Tony Young - WA3YLO was applauded at our February 23rd meeting for his talk on "Affiliated Clubs and Club Activities". There are so many events taking place around the area with all the various clubs that he has quite a job keeping track of them all. Keep up the good work, Tony, you are doing a great job.

our President's Weekend Special Event at Voice of America was a rewarding experience. About one-third of our club members participated during the weekend of February 18th and 19th. We started operating at 9:00 A.M. on Saturday the 18th and cut off about 10:00 P.M. Sunday, the 19th, we came on board about 9:00 A.M. and cut off at 5:00 P.M. We had two stations going and make about 500 contacts. We all had a great time and really appreciated having the opportunity to operate from the Voice of American's radio room. MADRAS sends thanks to Al Brown and all the members of the VOA radio club for making this event possible.

Drop in on our April, 13th meeting and get

to hear Hugh TurnbullW3ABC, give his presentation on "Atlantic Division Update". We always enjoy Hugh's visits to our club.

Scott Standiford - W3YTW will be talking on "Commercial Satellites" at our April 27th meeting. Scott, who has been a member of MADRAS since it founding is an interesting and animated speaker and we are all looking forward to his presentation.

HAPPY EASTER 73's Jean - N3PLC

Northern Virginia FM Association

The NVFMA has been experiencing some interference problems on it's 440 repeater, and is asking for volunteer help from it's members and the amateur community. We are looking for anyone who can assist in monitoring the frequency and establish any patterns as to when the repeater "opens up", during the daylight hours. We are hoping that the persons assisting us in this problem may be located in the Tysons Corner area. A scanner or more technical equipment may be needed. If you would like to lend a helping hand, please contact Sam/KM4OI at the following numbers; (H) 703-349-0977 or (W) 703-734-3499. A local commercial station may be the possible source.

In other news, it is hoped that the Bull Run Mtn. 146.91 remote will be operational in th next few months.

Also, as a result of the last general membership meeting, several NVFMA members indicated a concern about recent operator problems on one of the NVFMA machines. As a result of the views expressed by the members, Mike/KB4CVL - President of the NVFMA, has created a "Personal Interference" Committee, to be headed by Scott/KE4HCT - NVFMA board member. The purpose of the committee is to follow up on all complaints initiated by the members of the NVFMA, and to report it's

Sterling Park Amateur Radio Club

▲ Meetings: 8:00 P.M. - Third Monday of the month except July and August at Sterling Community Center Annex, Church Rd. (Rt. 625) near Route 28, Sterling, VA

▲ Mailing: Call Box 599, Sterling, VA 20167

▲ Information: Forrest Snyder, N4UTY (Pres.) 430-4149, W. T. "Red" Free, W3FTG (PIO) 709-0896

February's meeting featured a color video presentation introducing club members to the world of ham radio contesting. The program was written and produced by CQ magazine, and featured looks at a number of famous contest clubs and operators.

The big club activity for March is the 1995 Virginia QSO Party. Plaques will be awarded to the top scores for the state, for CW-only, high Virginia mobile, high VHF, high QRP-only, high out-of-state, top Novice/Tech, high combined club score and high SPARC member. Certificates will be given to the top scores in each DX country, state and Virginia county, as well as to anyone who worked all 95 Virginia Counties during the contest.

This year's theme, "95 in '95," was chosen to highlight the effort of contest chairman W3FTG's efforts to have all counties activated during this year's test. "Red" updated the club on packet promotions and further plans leading up to the contest weekend. And a report was given on this year's version of the QSO Party logging software developed by WA4ZAJ and NJ4F. Allen W1AEL added his commitment to go mobile in the eastern neck counties, and Ed K4GEL and Dave K7HMP want to give everyone a run for the money in the new QRP category.

The March meeting was set for planning the club's efforts for the coming Field Day competition. Steve Harrison KO0U/4 will again chair the event. ARRL 4th Area 2-letter Prefix QSL Bureau manager Dick Maylott W4LMJ spoke on bureau operations and

reported on his trip to the Florida

Hamboree in early March, representing the League.

Future meetings will feature presentations on ARES and emergency service, and how to build and operate "stealth" antennas to cope with the ever-present restrictive real estate covenants. The club has also authorized procurement of the Novice/Tech video training package from ARRL for future training classes. Club President Forrest Snyder N4UTY is serving as contact for class information.

Ray Mullins KD4RSL was named to be one of SPARC's trustee nominees for FAR, to go with Dick W4LMJ. And W3FTG agreed to apply as trustee for a new club station call as soon as the FCC began to accept club station applications. Several others suggested possible "vanity" calls previously held by deceased charter club members for the club to consider.

NVFMA - Continued from page 29

general findings to the President, board and members to decide as to whether or not any further action is required or needed. Scott/KE4HCT, can be reached at (703) 754-8253 or on packet @N4WJN. It is still NVFMA policy that all NVFMA repeaters are, and will be open to all amateurs everywhere.

In NVFMA board news, the idea of initiating a NVFMA newsletter was discussed. It appears that there is membership interest and support. The name of the newsletter may become "The NVFMA Quarterly", and may have it's first mailing to NVFMA members before the next general membership meeting. The Editor will b Scott/KE4HCT. Your comments and suggestions are welcome.

The next general membership meeting will be held in June. Stay tuned for the exact date!

Current NVFMA membership stands at 575.

73 de Scott, KE4HCT

Ole Virginia Hams ARC

▲ Meetings: Third Monday of the Month (except November), 8:00pm, NOVEC Bldg.,

▲ 10323 Lomond Dr., Manassas, Va.

▲ Repeater: WA4FPM 146.970 & 224.660 (linked)

▲ Packet Node: (OVH) 145.030 and 223.540

▲ Bulletin: Every Thursday on the WA4FPM Rptrs at 8:00pm, includes NEWSLINE

▲ Club Info: Harry Vorhauer - W4PVA (703)-369-6050

▲ Mailing address: Ole Va Hams ARC, P.O. Box 1255 Manassas, Va. 22110

Ole Va Hams recently elected new club officers. Thanks go to the following for their service during 1994:

President: Jim McKinley WD4OJY (was

VP in 1992 & 1993)

Vice Pres: Ervin Whalen KD4DFB Secretary: Ivan Reeder KD4DFD Treasurer: Jimmy Lascaris WA2QEJ

Welcome new OVH club officers for 1995 (although elected, all are volunteers):

President: Ervin Whalen KD4DFB (was 1994 VP)

Vice Pres: Ivan Reeder KD4DFD (was 1994 Secretary)

Secretary: Charlie Dale WA4YGI Treasurer: Joe Tutino AB4QV

OVH has a new membership chairman. He is Chuck Ahalt (KE4JWY). He can be reached at 703-754-0282 regarding becoming a member of the Ole VA. Hams ARC.

Welcome to new club members Bill (K4BWC), Brian (KE4NFK), Tom (KE4PCV), Steve (WA4TDH), Rita and Richard Wons (nocalls as yet), John (N9YTN), Jan (KE4TMW), Ian (KE4OIJ), Johnny (KE4QMS), James Shelton (no call yet), William (KK3T), and Nick (KE4VOQ) -congratulations to those of you with the shiny new calls too!

The OVH education committee now con-

sists of Charlie Dale (WA4YGI) and Ervin Whalen

(KD4DFB). Call Charlie at 703-361-3091 or Ervin at 703-335-1029 regarding upcoming OVH training classes. Current plans include a No Code Technician class and a Code Practice class to be held on separate nights in Manassas. I hope to see you at the code practice class (I'm a Tech+ needing practice!) By the way, I recently received my first DX QSL cards from the Bureau. I worked several stations in eastern Europe on 10meter phone (with an in-the-attic discone antenna) in Feb of 1993 including Croatia, Portugal, and the Netherlands. The QSL cards finally arrived at my QTH in November 1994. Why do I mention this? Well, the excitement I felt when

seeing those cards from so far away was just like it felt when actually talking to those European hams. (I sure wish 10 meters was open like that more often!) Now doesn't that sound like incentive to study that Novice Morse code? Watch the Training class column in Autocall for further information as it becomes available.

The Ole Va. Hams Hamfest is Sunday June 4, 1995. If I have done things correctly the flyer for the hamfest should appear somewhere else in this issue (If not, then look for it next month)! Special note regarding the hamfest this year: Tailgaters will be allowed entry to the fairground tailgate area Saturday night June 3rd IF they CHECK IN at the fairgrounds BEFORE 11PM. The gates will be LOCKED at 11PM. For general OVH hamfest information call Mary Lu (KB4EFP) at 703-369-2877. Dealer's call Joe (K4FPT) at 703-257-9719. We look forward to seeing you this year!

OVH is on the way to support our own 440 repeater. Scott (KE4HCT) and his 100 foot tower (near the base of and to the east of Bull Run Mountain) has agreed to be host for the club sponsored machine. The club has obtained through donations a Radio, Controller, CW id'er,

Power supply, and hardline! (Thanks go

SOUTHERN PATUXENT AMATEUR RADIO CLUB

- ▲ Meetings: 2nd Wednesday of each month at 7:00 p.m., Southern Community Center, Lusby MD * Nets: 2 8.41 0 Thursdays 8:3 0 p. m.; 147.195 Tuesdays 8:30 p.m. 146.985 Tuesdays 7:30 p.m.
- A Repeaters: 29.620- N3AGB Hollywood 146.985- W3ZNW Sunderland, Autopatch 147.195+ N3JTG Leonardtown, PL 156.7 147.390+ N3JTO California, Autopatch, PL 156.7 443.300+ N3AGB St.Leonard, Autopatch 449.225- K A 3 Z Y G Leonardtown
- Address: PO Box 399, St. Leonard, MD 20685
- ▲ Information: Steve Franc 301-373-3605; Dwayne Kincaid 410-586-2177

New Members: This month marks SPARC member number 250 with the addition of Dan Goodman / K2CEK ofdunkirk, Shawn Donley /N3AE of Huntingtown, and Ed Zumstein WB6NCO of Dunkirk.

Novice Tech Class: Another Novice / Technician class that started in February will be finishing up this month. Class instructors Steve Franc /AA3AN, Marty Gary / N3HRT and Dwayne Kincaid / WD80YG have been busy preparing students for the local exams to be held this month.

Repeaters: Due to co-channel interference on the 147.195 and 147.390 repeaters, the switch to sub audible tone access was made. Both repeaters now require PL 156.7 on the input.

The 147.390 Phone patch repeater was upgraded with a remote receiver in Hollywood early this year. Gene Tally / N3JTO has been planning for another remote receiver for lower St. Mary's County for sometime this spring. Greg Cerenzia / N3PRT built the last remote and has been gathering equipment for the next.

The 146.985 repeater got its new controller bugs worked out in January. The controller would occasionally loose it's mind and dump all the memories. The problem was traced to a chip not seated properly. The new phone patch has been working great for Calvert and lower Anne Arundel. Jeff Heaton / N3RVY was instrumental in getting the patch installed and managed. Jeff has also installed new gel cell batteries at the repeater site to give the repeater a 2-day back up capacity. The resurrected net on the .985 repeater has activity on the upswing again. The Tuesday night net has been averaging about 15 check-ins per week.

SPARC member Kevin Kelly / N6QAB has his new repeater 145.13 (-600) on the air. The repeater is running at low power, but it is useable in the lower Calvert and Lexington park area. He plans to add a phone patch and increase coverage for the area. Kevin was also an invited speaker at the MD State Convention in Timonium. His talk on fox hunting was well received.

Waity Gary / NOTITE has successiumy

Ole VA Hams - Continued from page 30

to Mark (KB4KRO) and Jimmy (WA2QEJ) for most of the hardware!! Scott has even requested and obtained preliminary T-MARC assignment of a frequency pair for the machine! (It looks like this repeater is really going to happen!) Now we need a UHF vertical, Rohn 25G side mounting bracket, and hardline connectors. If you've got a donation to make to this worthwhile amateur radio effort call Scott (KE4HCT) at 703-754-8253.

The Ole Va. Hams Scholarship committee chairman Pete (KB4RME) reported the following: The club will award three college scholarships to Prince William County high school students in the amounts of \$2,000, \$1,500, and \$1,000.

Submitted by Alan KD4KBX

T-MARC THE MIDDLE ATLANTIC FM AND REPEATER COUNCIL, Inc.

- ▲ Meetings: Coordinating Committee (CC) normally meets the last Monday of each month, 19:30, in the OEP conference room of the Prince George's County Emergency Operations Center off Central Avenue. Talkin on 146.76 or 147.54 simplex when close-in.
- ▲ Address: P.O. Box 1022, Savage, Md. 20763-1022 for all correspondence.

The annual membership meeting and election was held on February 5th at the Lee Center in Alexandria. The following officers were elected for the coming year:

President - Owen K6LEW
Tech V.P. - Bill W3EAO
V.P. PIO - Gary W3DTN
Sec/Treas - John K3HOI
Directors - John KA3LAO,
Ross WA2WDT, Sandy WB5MMB

President K6LEW reported on the past year's activities including an agreement between T-MARC and the SouthEast Repeater Association (SERA), our neighboring coordinator to the south and west, regarding new repeaters in the 440 MHz band. Our respective 440 MHz repeater band plans are different, thus complicating the coordination process. This agreement should help minimize problems. Owen also talked about the incorporation of T-MARC, and revisions to the By-Laws, which were then approved by the membership. He then discussed the formation of an Independent Committee for Arbitration of disagreements between repeater sponsors, and the revised "Ombudsman" program, which will review the activity level on all repeaters, to find those repeaters which are not in operation.

Continued on page 33

SEND ALL CLUB COLUMNS & SHACK SALES TO:
NEW EDITOR
John Queen
755 Woodland Way
Owings, MD 20736
(301) 855-0198

Southern Patuxent ARC - Continued from page 32 moved his repeater to its new frequency of 146.775 (-600) near Lexington Park. PL of 156.7 is required during band openings.

ARES I RACES: SPARC members set up HF stations at the Calvert Cliffs Nuclear Power Plant for the "Hams for Nuclear Energy Day" on March 1 1. Band conditions were fair, but several hundred contacts were still made on 40, 20,15 and 10. About a dozen other Nuclear Power Plant across the country also participated. QSL cards and certificates for working 5 or more plants are available. See March QST, page 124. Thanks to Bob Smith / N3IFL for his hard work on the Special Event.

Also on March I 1, SPARC Amateur Emergency Service members set up stations at a local shopping center and the Emergency Operations Center in St. Mary's. The set up was to increase public awareness of the Red Cross in the area. Dan Navaffo / N3NHT led the activity.

Tower Zoning: Calvert County Amateurs have been closely following the proceedings of the newly formed tower zoning proposals. Gail Griner / W3IRE has been attending hearings and presenting papers to the commissioners on the subject. A final ruling is not planned until later this year.

New Officers: The 1995 SPARC Officers are President - Steve Franc AA3AN, Vice president- Glen Thom KE3MF, Secretary Randy Norris KE3QZ, and Treasurer - Jerry Bushman / AA3IT.

Regarding repeaters which are not in operation, the membership approved a policy change which requires all repeater sponsors to notify T-MARC in writing if their repeater goes off the air. The sponsor then has 90 days to get the machine back into operation. If T-MARC observes a repeater to be off the air for more than 30 days, and no notification has been sent to T-MARC, the coordination will be cancelled and the frequency put back into the pool of available frequencies. These provisions are due to congestion on the repeater bands, and the fact that we now have a waiting list of applicants for new 2-Meter repeaters.

The members approved a revision to the Shared, Non-Protected (SNP) frequencies which requires all repeaters on the SNP's to use coded access in order to share the frequencies. In addition, sponsors may apply for a form of provisional coordination on the SNP, which would give them "coordinated" status in the event a repeater-to-repeater interference problem arises.

Term limits for T-MARC officers were discussed, and the membership approved a motion that the BofD develop a proposed system of term limits to be voted on at next year's annual meeting. A new policy was approved regarding repeater sponsors which appear to have provided false or misleading information to the coordinating committee (CC). And past practice was codified by a new policy which specifies that all information provided to the CC by repeater sponsors will be held in strict confidence, and used only for coordination purposes.

As discussed in last month's column regarding mailing addresses of repeater sponsors, the membership approved a policy which requires cancellation of a coordination if two attempts at corresponding with a sponsor are unsuccessful. All sponsors are strongly urged to provide T-MARC with a back-up address, which could be a different mailing address, packet or E-mail.

ast year we reported on the cancellation of coordination for the old 147.06 repeater near Frederick, Md. The CC received three applications from different sponsors for a new coordination on that frequency, so the matter was presented to the membership for their consideration. After discussion, the membership approved issuance of a coordination to the Mid-Atlantic DX & Repeater Assn. (MADRA).

Due to increased operating expenses, an increase of membership dues was approved, along with a simplification of dues calculation and members' votes. A single individual's dues go up to \$10, with 1 vote. Groups or clubs with 2 to 100 members dues will be \$24, with 3 votes, and groups or clubs with more than 100 members will pay \$100, with 10 votes. We hope ALL repeater sponsors (both individuals and clubs) will support T-MARC with your membership dues, which are now due for 1995. They can be sent to the above address.

Our sincere thanks to the NVFMA for providing excellent snacks and drinks. As you can see, the annual meeting was a long, busy one. We hope all sponsors will agree with the actions taken, and again we urge all sponsors to support T-MARC by sending in your 1995 dues. We'll get back to the regular column next month.

73, Gary, W3DTN, T-MARC PIO



AMSAT

The Radio Amateur Satellite Corporation

- ▲ Local Meetings: Semiannual in March and September.
- ▲ VHF FM Net: Sunday at 9 p.m. on 146.835 MHZ FM, WA3NAN/R. Greenbelt, MD on holiday weekends.
- ▲ Information: NCS Pat Kilroy, WD8LAQ, by packet radio: WD8LAQ @ WB3V.MD or by Internet: wd8laq@amsat.org

AMSAT is a non-profit, scientific and educational incorporated in Washington, D.C. with headquarters in Silver Spring,, Maryland. Everyone is welcome to join AMSAT and to become actively involved in the support and operation of the amateur space program. If you would like additional information then you may write to: AMSAT Headquarters, PO Box 27, Washington, D.C. 20044. or you may telephone headquarters at 301-589-6062.

HR AMSAT NEWS SERVICE BULLETIN 056.01 FROM AMSAT HQ:

TECHSAT AND UNAMSAT-1 READY FOR LAUNCH

The following is a notice concerning the impending launch of TECHSAT-1 captured from KO-23 by N7HPR.

From: 4X1AS TO: ALL

Subject: Techsat TNCS/MODEMS Internet

Date: 21.2.95

The launching of TECHSAT-1 will take place on the 28th of March from Plesetsk Russia, about 700 km north of Moscow.

The launcher is a START rocket.
A few of the satellite's specifications:

Size: $0.45 \text{ m} \times 0.5 \text{ m} \times 0.5 \text{ m}$.

Weight: 50 kg.

Altitude: 670 km, approx.

Orbit; circular, not sun-synchronized.

Stabilization: 3-axis stabilized, earth pointing.

Power available: 20 watts, average.

Housekeeping consumption: 10 watts.

Communication: Amateur radio standards and frequencies.

Store and forward: multi-user digital system.

Keplerian elements will be updated close to launch date.

More information will be released soon.

Prelaunch elements were provided as:

Satellite: TECHSAT-1 Catalog number: tbd

Epoch time: 95087.37500000

(Separation)

Element set: 001

Inclination: 075.3991 deg
RA of node: 328.7324 deg
Eccentricity: 0.0015304
Arg of perigee: 101.9385 deg
Mean anomaly: 355.9607 deg

Mean motion: 14.7000703 rev/day

Decay rate: 0 rev/day@2

Epoch rev: 0

The following are the satellite frequencies:

145 MHZ	UPLINK	1269 UPLINK	435 MHZ DNLINK
145.850		1269.700	435.225
145.B90		1269.800	435.325
145-910		1269.900	
145.930		1269.950	

Mode of operation 9600 bps MSK or 1200 bps PSK. (1200 bps for tests and emergency mode.)

TNC/MODEMS: G3RUH or compatible for 9600 bps, FUJI or pacsat for 1200 bps.

A telemetry program will be soon uploaded onto the existing satellites. All testing of the systems we estimate will take months, to be on the safe side, maybe less. After completion of all tests on orbit, reports will be welcomed as we will only be able to see the spacecraft five or six orbits each day.

The command station is 4X6EM at the Haifa TECHNION- Operator in charge is Asi, 4Z7ABA, and Igaal, 4Z7EBA. Their Internet address is 4x6em@tx.technion.ac.il. You can also post telemetry reports on the anonymous ftp site in the /techsat directory at the address pc.4z4aba.ampr.org.

73 de Shlomo 4X1AS

Tom Clark, W3IWI, reminds us that this launch will also carry the Mexican MICROSAT UNAMSAT-1 constructed at the Atonomous University of Mexico by a team headed by David Liberman, XEITU. It is understood that David and the rest of the UNAM crew are about ready to depart for Moscow and Plesetsk.

[The AMSAT News Service would like to thank Steve Bible, N7HPR, and Tom Clark, W3IWI, for providing this information.]

SPECIAL NOTE: UNAMSAT-1 is built from the same mode as six previous AMSAT Microsats (AO-16, WEBERSATF DOVE, LUSAT, ITAMSAT and EYESAT) and is a cube 25 cm on a side weighing about 10 kg. As was the case with all previous AMSAT microsats (except DOVE), the satellite downlink is 1200 baud PSK in the 70 cm band.

73, Tom W3IWI

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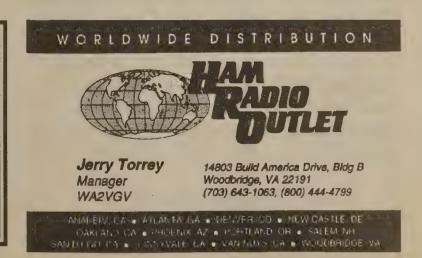
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NEW EDITOR OF AUTO-CALL MAGAZINE

John Queen 755 Woodland Way Owings, MD 20736 (301) 855-0198

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Non-commercial advertising of Amateur associated equipment is available to subscribers of AUTO-CALL at a rate of 3 cents per word - with a \$1.00 minimum. Commercial vendors and non-subscribers rate is 17 cents per word - with a \$5.50 (1 inch) minimum. Special headings or special spacing (e.g. one item per line) may be used but such ads will be charged at the column inch rate.

Estate sales for Widows assistance handled by a FAR club will be published without cost. Full name and address must be provided with each ad but need not be published. No ads will be accepted over the telephone and all ads must be pre-paid. Ads that will be running for longer than 1 month must be accompanied by a letter stating the length that the ad is to be run. Since no effort is made to investigate advertisers, no warranty can be applied.

ALL ADVERTISING & SHACK SALES - COMMERCIAL AND NON-COMMERCIAL SHOULD BE SENT TO:

John Queen, Auto-Call Editor 755 Woodland Way Owings, MD 20736 (301) 855-0198

Copy MUST be received by the 1th of the month prior to the month of publication.

FOR SALE: Quad Beam Antennas For Two Meters - 2 to 10 Elements
Quad Beam Antennas For Six Meters - 2 to 6
Elements. Halo Loops Available For 2
Meters, For Horizontal Base or Mobile use 1 & 2 Elements. Some Antennas are assembled and ready to pick up. Kits available for larger antennas upon request. For prices and information, Phone (410) 956-8045, Ask for Lee.

WANTED: Johnson Ranger snap-on crystal cover. Ceramic chimney for 4CX250B.

Original instruction manual for TMC GPT-10K. AM transmitter parts. 810 tube. Modulation transformer. Write Chuck, POB 934, Dahlgren, VA 22448

FOR SALE: Kenwood TS-530S, All Bands including WARC, Solid State with built-in Power Supply and Manual \$475.00 Contact Harry Kaklikian, W4ACN, 4941 Andrea Ave, Annandale, VA 22003 (703) 978-4402

AUTO-CALL

WANTED: Drake L4-B Amplifier, Contact John Unger-W3GOI, P.O. Box 95, Hamilton, VA 22068 (703) 338-4620 Home, (703) 648-6790 Work

FOR SALE: Satellite Dishes (2), MACOM 3.5-foot with heavy duty mounting hardware, 12-GHz and up, still in crates. REAL CHEAP! Plus one feedhorn; one Hitachi Preamp; one UMT-16 Key Service Unit for telephone tie communications; Plus Standard Communications 24 channel TV receiver. Call Mark Murry-WX3H,(703) 573-4620. Leave Message.

FOR SALE: Three 286 Computers, REAL CHEAP! Call Mark Murry-WX3H, (703) 573-4620. Leave Message.

FOR SALE: Wavetek 1901-C Oscilloscope. Best Offer. Call Mark Murry-WX3H, (703) 573-4620. Leave Message.

WANTED: 2 HT CB (5 watts) preferably all 40 channels. Contact Gerold Rose, 524 N. Quaker, Alexandria, VA 22304-1827; (703) 370-1880

WANTED: I am looking for a Heathkit Oscilloscope (at least 10 MHz) with manuals and Teaching Aid Kits and Hardware often offered with unit. Contact Gerold Rose, 524 N. Quaker, Alexandria, VA 22304-1827; (703) 370-1880

FOR SALE: Thorens TD-124 Transcription Turntable, 16,33,45,78 Speeds, with arm, base, cartridge, supply copy - free music and sound effects - all in excellent shape. Contact Gerold Rose, 524 N. Quaker, Alexandria, VA 22304-1827; (703) 370-1880

WANTED for museum: Apple-1 and other pre-1980 microcomputers, also early microcomputer journals, newsletters and advertisingliterature. Call (703)231-6478/763-2321

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FOR SALE: Ten Tec Omni D Model 546 \$350; Heath HO 10 Monitor Scope \$20 Heath Station Monitor HO 5404-with Pan Adapter \$45; Transmatch \$100; Kilowatt Amp. 10 thru 80, Tube 3-1000Z \$200(No Power Supply); Variable Voltage Regulator \$25 Contact: Tom Strickler 1043 Northview Ave. Front Royal, MD 22630

FOR SALE: Heath Linear Amplifier Model SB-200 12 Watts P.E.P., 1000 CW, Finals 2-572 B's with only 4 hours in use. \$475; Chemical Toilet for use on field day in the boonies. New Never used \$40.; Hy-Gain Tri-Band Beam TH6-DXX, New in original Box \$350. Call Gus - (301) 498-0027

FOR SALE: 27 Plus years of 73 Magazine. 1st issue thru 1990. 12 years in binders \$75. Ham Radio Horizons - 1st issue thru 1980, 30 plus issues. \$18. 20 Years 1970/1990 RSGB Magazine (British QST) Plus # of years of New Zealand and Australian QST. \$40. Call Bob, W4JNN (703) 560-7161

NEW AUTO-CALL EDITOR

JOHN QUEEN 755 WOODLAND WAY OWINGS, MD 20736 (301) 855-0198

April 1995

Auto-Call

Page 37

FOR SALE: B&W-850A 80-10 meters, Band-switching PI-Network COIL (HIGH POWER) \$75. B&W FC-30 Filement Choke, \$25. EIMAC 4-1000A Forced Air, Tube Socket \$25.-Oil Filled Capacitors (3) 4mfd @ 4kv \$15ea. EF-Johnson Rotary Inductor 226-3 (mint) \$75. EF Johnson HV Neutralizing Capacitor 1.7-11pf (NEW) \$10. EF Johnson Adjustable Low-Pass Filter \$45. RCA Filement XFMR 7.5v @ 30amps. \$45 1N2637 (4) replaces 866A & 3B28 (10400 PIV) \$5ea. (3) Simpson 10amp RF meter (NEW) \$15 ea. Heath HP23 Power Supply \$50. Swan 350 W/AC/DC PWR Supplies, VOX, retubed (MINT) \$350. Standard 2Meter SR-C826M 12 channels, clean, \$45. GemQuad Fiberglass spreaders (8). \$10ea. Heath Kit Test Eq. VTVM.\$15, RF Gen. SP8 \$15., Voltmeter IM-16, \$15. EICO resistance/capacitor comparitor 950A \$15., RF Gen. 322 \$15., Eico Series/Parallel R-C combination box 1140 \$15., Eico Audio Gen. 377 \$15. (2) Video Cameras B+W, (fair) \$25.ea. MYT-Power converter car alternator to 110-DC at 30amps. \$20. NEC Pinwriter P7 (NW) \$25. Fischer VHS 4 head recorder (NW) \$25. Gas Gen. (NEW) 2kw \$350. Call Dave, WA3GIN (703-414-2700) ARL.

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1995 ARRL HANDBOOK (List \$30) 1-9 \$27.50, special 10-up prices.

1995 CALLBOOKS. International or North American, (List \$35 each) Only \$28 each; \$54 per pair. Special pricing for larger quantities.

New! ARRL Antenna Compendium IV with software (List \$20) Only \$18.25. New, released February, 1995! CD-ROM Callsign disk. QRZ! HAM RADIO Includes US, Canadian, England and Italian ham listing, plus hundreds of ham related programs. (List \$29.95) Special price - only \$18.00!

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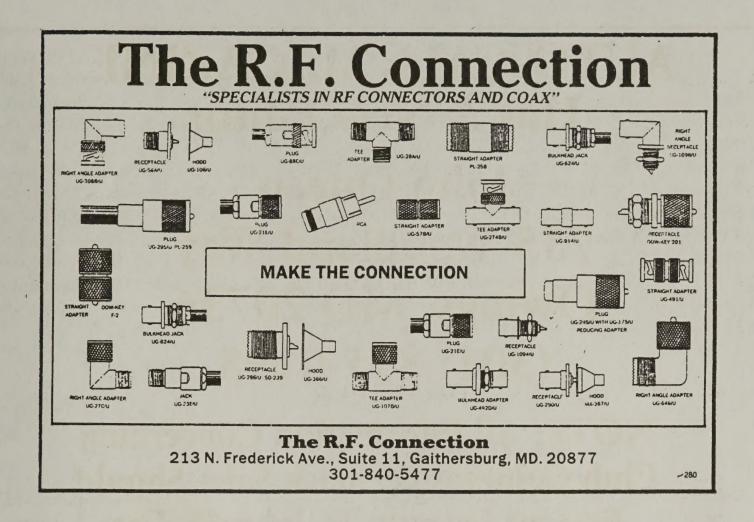
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April 1995

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NOTE: All Information Concerning Club Columns & Shack Sales Should Be Sent Directly To John At The Above Address.

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